

AMENDMENT TO CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) A method for increasing the specific activity of a mutated glycosyl hydrolase on a substrate relative to an unmutated form of the glycosyl hydrolase, comprising replacing an active site associated glycosyl-stabilizing amino acid of the hydrolase with an amino acid, the replacing amino acid binding cellobiose less tightly than the glycosyl-stabilizing amino acid to provide a mutant glycosyl hydrolase-, said glycosyl-stabilizing amino acid comprises tyrosine and said replacing amino acid comprises glycine.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) The methods of claim-3, wherein the mutant glycosyl hydrolase comprises SEQ ID NO: 2-Y245G, SEQ ID NO:3 Y42R, SEQ ID NO:4 W82R, or a mixture thereof.

8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled).
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Currently Amended) A method for increasing the specific activity of

Acidothermus cellulolyticus ~~an~~ of E1 endoglucanase ~~or a structural analog thereof~~ on a biomass, comprising replacing, by site-directed-mutagenesis, an active site associated glycosyl-stabilizing amino acid of the endoglucanase with an amino acid, the replacing amino acid binding cellobiose less tightly than the glycosyl-stabilizing amino acid to provide a mutant endoglucanase; said glycosyl-stabilizing amino acid comprises tyrosine and the replacing amino acid comprises glycine.

30. (Cancelled)

31. (Currently Amended) The method of claim 29, wherein the mutant endoglucanase comprises SEQ ID NO: 2, SEQ ID NO:3, SEQ ID NO: 4, or a mixture thereof.